USA Comments

Terrestrial Animal Health Standards Commission Report - February 2015

NOTE:
The Code Commission encourages Member Countries to review all relevant reports when reviewing this document including followings:

- September 2014 report of the Scientific Commission for the rationale on the proposed amendments (http://www.oie.int/fileadmin/Home/eng/Internationa_Standard_Setting/docs/pdf/SC___AD/A_SCAD_Sept2014.pdf)
- April 2014 report of *ad hog* Group on African Swine Fever attached to the September 2014 report of Scientific Commission

CHAPTER 15.1.

INFECTION WITH AFRICAN SWINE FEVER VIRUS

Article 15.1.1.

General provisions

~~The~~ Suids (the pig and its close relatives) are the only natural hosts for African swine fever virus (ASFV). These include all varieties of *Sus scrofa*, both domestic and wild, warthogs (*Phacochoerus* spp.), bushpigs (*Potamochoerus* spp.) and giant forest hog (*Hylochoerus meinertzhageni*).

For the purposes of this chapter, a distinction is made among ~~between~~: ~~domestic pigs (permanently captive and farmed free-range pigs) and wild pigs (including feral pigs and wild boar) as well as between *Sus scrofa* and African pig species.~~

- domestic ~~***and captive wild***~~ pigs, permanently captive or farmed free range, used for the production of *meat*, or other commercial products or use, or for breeding; ~~**these categories of pigs;**~~;
- **captive wild,** *wild* and *feral* pigs;
- African *wild* suid species.

Rationale: The United States suggests that captive wild pigs should not be included in the same category as domestic pigs -- a Member Country should impose bans on the trade of commodities of domestic pigs in response to a notification of infection with ASF in captive wild, wild, feral pigs or African wild suids to maintain consistency in the chapter with the same change (removing captive wild pigs from classification with domestic swine) is made throughout the document.

All varieties of *Sus scrofa* are susceptible to the pathogenic effects of ASFV, while the African *wild* suids ~~pigs~~ are not and may act as reservoirs of the virus ~~*infection*~~. Ticks of the genus *Ornithodoros* are natural hosts of the virus and act as reservoirs and biological *vectors* ~~of the *infection*~~.

For the purposes of the *Terrestrial Code*, African swine fever (ASF) is defined as an *infection* of suids with ASFV.

The following defines *infection* with ASFV:

1) ASFV has been isolated from samples from a suid;

OR

2) viral antigen has been identified, or viral nucleic acid specific to ASFV has been demonstrated to be present in samples from a suid epidemiologically linked to a suspected or confirmed *outbreak* of ASF, or giving cause for suspicion of previous association or contact with ASFV, whether or not clinical signs or pathological lesions consistent with ASF are present;

OR (Article 15.1.1. continued)

3) antibodies specific to ASFV have been identified in samples from a suid showing clinical signs or pathological lesions consistent with ASF, or epidemiologically linked to a confirmed or suspected *outbreak* of ASF, or giving cause for suspicion of previous association or contact with ASFV.

A Member Country should not impose bans on the trade in *commodities* of domestic ~~**and *captive wild***~~ pigs in response to a *notification* of *infection* with ASFV in **captive wild**, *wild* and *feral* pigs or African *wild* suids provided that Article 15.1.2. is implemented.

For the purpose of the *Terrestrial Code*, the *incubation period* in *Sus scrofa* ~~is~~ shall be 15 days.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 15.1.2.

General criteria for the ~~D~~determination of the ASF status of a country, zone or compartment

~~The African swine fever (ASF) status of a country, *zone* or *compartment* can only be determined after considering the following criteria in domestic and wild pigs, as applicable:~~

1) ASF ~~should be~~ is notifiable in the whole country, and all suids **testing positive or** showing clinical signs suggestive of ASF are subjected to appropriate field and *laboratory* investigations;

Rationale: Occasional false positive test results are likely and should be investigated whether or not an animal shows clinical signs.

2) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of ASF;

3) the *Veterinary Authority* has current knowledge of, and authority over, all domestic and *captive wild* pig *herds* in the country, *zone* or *compartment*;

4) the *Veterinary Authority* has current knowledge about the species, population and habitat of wild suids ~~pigs~~ in the country or *zone*.~~;~~

5) for domestic and *captive wild* pigs, an appropriate *surveillance* programme in accordance with Articles 15.1.22. to 15.1.27. is in place;

6) for *wild* and *feral* pigs, and for African *wild* suids, if present in the country or *zone*, a *surveillance* programme is in place according to Article 15.1.26., taking into account the presence of natural and artificial boundaries, the ecology of the *wild* and *feral* pig and African *wild* suid populations and an assessment of the *risks* of *disease* spread including the presence of *Ornithodoros* ticks;

7) based on the assessed *risk* of spread within the *wild* and *feral* pig and African *wild* suid populations, and according to Article 15.1.26., the domestic and *captive wild* pig population should be separated from the *wild* and *feral* pig and African *wild* suid populations by appropriate measures.

Article 15.1.3.

Country or zone free from ASF ~~free country, zone or compartment~~

+

1. ~~Historically free status~~

A country or *zone* may be considered historically free from ASF without formally applying a specific *surveillance* programme if the provisions of point 1 of Article 1.4.6. are complied with.

2. ~~Free status as a result of an eradication programme~~

A country or *zone* which does not meet the conditions of point 1 above ~~or a *compartment*~~ may be considered free from ASF when:

a) there has been no *outbreak* of ASF in either domestic ~~and~~/**or** *captive wild* pigs during the past 12 months ~~three years; this period can be reduced to 12 months when there is no evidence of tick involvement in the epidemiology of the *infection*~~;

Rationale: Article 15.1. 3. 2 (a) - If there is consensus to include captive wild pigs in the same category as domestic pigs, then the recommendation for consideration of freedom should require that ASF not be found in either domestic **or** captive wild pigs… therefore, the use of the word "or" rather than the word "and" should be made.

~~no evidence of ASFV *infection* with ASFV in domestic and *captive wild* pigs has been found during the past 12 months~~;

b~~c~~) *surveillance* in accordance with Articles 15.1.22. to 15.1.27. has been in place in domestic and *captive wild* pigs for the past 12 months **and negative test results**;

Rationale: Article 15.1. 3. point 2 (b) – The United States recommends adding the phrase "and negative results" which is consistent with the text of this chapter in reference to assurance of the absence of infection.

c~~d~~) imported domestic and *captive wild* pigs and pig *commodities* comply with the requirements of~~in~~ Article~~s~~ 15.1.5. ~~or to Article~~ 15.1.~~6~~17.

~~AND~~

~~Based on *surveillance*, ASF *infection* has been demonstrated not to be present in any wild pig population in the country or *zone*, and:~~

~~e) there has been no clinical evidence, nor virological evidence of ASF in wild pigs during the past 12 months;~~

~~f) no seropositive wild pigs have been detected in the age class 6–12 months during the past 12 months;~~

~~g) imported wild pigs comply with the requirements in Article 15.1.7.~~

Article 15.1.3.bis

Compartment free from ASF

The establishment of an ASF free *compartment* should follow the relevant requirements of this chapter and the principles in Chapters 4.3. and 4.4.

Article 15.1.3.ter

Establishment of a containment zone within a country or zone free from ASF

In the event of limited *outbreaks* of ASF within a country or *zone* free from ASF, including within a *protection zone*, a *containment zone*, which includes all *outbreaks*, can be established for the purpose of minimising the impact on the entire country or *zone*.

In addition to the requirements for the establishment of a *containment zone* outlined in point 3 of Article 4.3.3., the *surveillance* programme should take into account the presence and potential role of *wild* and *feral* pigs and any measures in place to avoid their dispersion.

The free status of the areas outside the *containment zone* is suspended while the *containment zone* is being established. The free status of these areas may be reinstated irrespective of the provisions of Article 15.1.4., once the *containment zone* is clearly established. It should be demonstrated that *commodities* for *international trade* have originated outside the *containment zone* unless these *commodities* comply with the provisions in Articles 15.1.6., 15.1.9., 15.1.11. and Articles 15.1.13. to 15.1.17.

The recovery of the ASF free status of the *containment zone* should follow the provisions of Article 15.1.4.

Article 15.1.4.

Recovery of free status

Should an ASF *outbreak* occur in a free country, or *zone* ~~or *compartment*~~, the free status may be restored where *surveillance* has been carried out with negative results, either:

1) three months after the last *case* where a *stamping-out policy* is practised ~~and in the case where ticks are suspected to be involved in the epidemiology of the *infection*,~~ followed by ~~acaricide treatment and~~ the use of sentinel pigs; or

2) where a *stamping-out policy* is not practised, the provisions of point 2 of Article 15.1.3. should be followed.

~~AND~~

~~Based on *surveillance*, ASF *infection* has been demonstrated not to be present in any wild pig population in the country or *zone*.~~

Article 15.1.5.

Recommendations for importation from ~~ASF free~~ countries, zones or compartments free from ASF

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the animals:

1) showed no clinical sign of ASF on the day of shipment;

2) were kept in a~~n ASF free~~ country, *zone* or *compartment* free from ASF since birth or for at least the past ~~40 days~~ three months.

Article 15.1.6.

Recommendations for importation from countries or zones considered infected with ASF

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1) showed no clinical sign of ASF **for the 30 days prior to the** day of shipment;

Rationale: Article 14.1.6.(1) – The United States recommends adding the text, for the 30 days prior to the day of shipment to identify possible subacute or chronic disease. The lack of clinical signs should be verified for thirty days to take in account the incubation period of the virus and the potential for a less virulent strain of ASF with more subtle clinical signs to be recognized.

2) and either:

   a) were kept since birth or for the past ~~40 days~~ three months in a~~n ASF free~~ *compartment* free from ASF; or

   b) were kept in a *quarantine station*, isolated for 30 days prior to shipment, and were subjected to a

virological test and a serological test performed at least 21 days after entry into the *quarantine station*, with negative results.

~~Article 15.1.7.~~

~~**Recommendations for importation from ASF free countries or zones**~~

~~For wild pigs~~

~~*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:~~

~~1) showed no clinical sign of ASF on the day of shipment;~~

~~2) have been captured in an ASF free country or *zone*;~~

~~and, if the *zone* where the *animal* has been captured is adjacent to a *zone* with *infection* in wild pigs:~~

~~3) were kept in a *quarantine station* for 40 days prior to shipment, and were subjected to a virological test and a serological test performed at least 21 days after entry into the *quarantine station*, with negative results.~~

Article 15.1.8.

Recommendations for importation from ~~ASF free~~ countries, zones or compartments free from ASF

For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the donor ~~*animals*~~ males:

   a) were kept in a~~n ASF free~~ country, *zone* or *compartment* free from ASF since birth or for at least ~~40 days~~ three months prior to collection;

   b) showed no clinical sign of ASF on the day of collection of the semen;

2) the semen was collected, processed and stored in ~~conformity~~ accordance with ~~the provisions of~~ Chapters 4.5. and 4.6.

Article 15.1.9.

Recommendations for importation from countries or zones considered infected with ASF

For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the donor ~~*animals*~~ males:

   a) were kept in a**n** ~~ASF free~~ *establishment* ~~*compartment*~~ free from ASF since birth or for at least ~~40 days~~ three months prior to collection;

   b) showed no clinical sign of ASF on the day of collection of the semen and for the following ~~40~~ 30 days;

   c) were subjected to a serological test performed at least 21 days after collection, with negative results;

2) the semen was collected, processed and stored in ~~conformity~~ accordance with ~~the provisions of~~ Chapters 4.5. and 4.6.

Article 15.1.10.

Recommendations for importation from ~~ASF free~~ countries, zones or compartments free from ASF

For *in vivo* derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the donor females~~:~~

~~a) were kept in an ASF free country, *zone* or *compartment* since birth or for at least 40 days prior to collection;~~

a) were kept in a country, *zone* or *compartment* free from ASF since birth or for at least three months prior to collection;

b) showed no clinical sign of ASF on the day of collection of the embryos;

2) the embryos were collected, processed and stored in ~~conformity~~ accordance with ~~the provisions of~~ Chapters 4.7. and 4.9., as relevant.

Article 15.1.11.

Recommendations for importation from countries or zones considered infected with ASF

For *in vivo* derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the donor females:

a) were kept in a~~n ASF free~~ *compartment* free from ASF since birth or for at least ~~40 days~~ three months prior to collection;

b) showed no clinical sign of ASF on the day of collection of the embryos and for the following ~~40~~ 30 days;

c) were subjected to a serological test performed at least 21 days after collection, with negative results;

2) the embryos were collected, processed and stored in ~~conformity~~ accordance with ~~the provisions of~~ Chapters 4.7. and 4.9., as relevant.

Article 15.1.12.

Recommendations for importation from ~~ASF free~~ countries, zones or compartments free from ASF

For fresh meat of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *fresh meat* comes from animals which:

1) have been kept in a~~n ASF free~~ country, *zone* or *compartment* free from ASF since birth ~~or for at least the past 40 days,~~ or which have been imported in accordance with Article 15.1.5. or Article 15.1.6.;

2) have been slaughtered in a~~n~~ ~~approved~~ *slaughterhouse/abattoir*, approved by the Veterinary Authority for export purposes,have been subjected to ante- and post- mortem inspections in accordance with Chapter 6.2., and have been found free ~~of~~ from any sign suggestive of ASF.

Rationale: The suggested edits in the text are changed for consistency with the wording in other sections of this chapter.

Article 15.1.12.bis

Recommendations for importation from countries or zones considered infected with ASF

For fresh meat of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the entire consignment of *fresh meat* comes from animals which have been slaughtered in a~~n approved~~ *slaughterhouse/abattoir* **approved by the Veterinary Authority for export purposes and**, have been subjected to ante- and post-mortem inspections in accordance with Chapter 6.2., and have been found

free from any sign suggestive of ASF;

Rationale: The edits are suggested to be consistent with the wording in other sections of this chapter.

2) appropriate samples have been collected from every animal killed and been subjected to a virological test and a serological test for ASF, with negative results.

Article 15.1.13.

Recommendations for importation ~~from ASF free countries or zones~~ of fresh meat of wild and feral pigs

~~For fresh meat of wild pigs~~

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the entire consignment of *fresh meat* comes from *animals* which:-

~~a) have been killed in an ASF free country or *zone*;~~

~~b)~~ have been subjected to a post-mortem inspection in accordance with Chapter 6.2. in an approved examination centre, and have been found free of any sign suggestive of ASF;

have been subjected to a post-mortem inspection in accordance with Chapter 6.2 in an ~~approved~~ examination centre **approved by the Veterinary Authority for export purposes**, and have been found free of any sign suggestive of ASF;

Rationale: The edits are suggested to be consistent with the wording in other sections of this chapter.

~~and,~~

2) if the country or the *zone* where the *animal* has been killed does not comply with the conditions of point 1 of Article 1.4.6., or is adjacent to a country or *zone* with *infection* in *wild* or *feral* pigs,

~~2)~~ appropriate samples ~~has~~ have been collected from every animal killed and ~~has~~ been subjected to a virological test and a serological test for ASF, with negative results.

Article 15.1.14.

Recommendations for the importation of meat products of pigs ~~(either domestic or wild), or for products of animal origin (from fresh meat of pigs) intended for use in animal feeding, for agricultural or industrial use, or for pharmaceutical or surgical use, or for trophies derived from wild pigs~~

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the products:

1) have been prepared:

a) exclusively from *fresh meat* meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;

b) in a processing establishment:

i) approved by the *Veterinary Authority* for export purposes;

ii) processing only *meat* meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;

OR

2) have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of ~~the~~ ASFV, and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.15.

Recommendations for the importation of pig products ~~of animal origin (from pigs, but not derived from fresh meat) intended for use in animal feeding and for agricultural or industrial use~~

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these products:

1) ~~have been prepared:~~ originated from domestic and *captive wild* pigs in a country, *zone* or *compartment* free from ASF and have been prepared in a processing establishment approved by the *Veterinary Authority* for export purposes;

   ~~a) exclusively from *fresh meat* meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;~~

   ~~b) in a processing establishment:~~

      ~~i) approved by the *Veterinary Authority* for export purposes;~~

      ~~ii) processing only *meat* meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;~~

OR

2) have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of ~~the~~ ASFV, for swill in accordance with Article 15.1.18., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.16.

Recommendations for the importation of bristles, litter and manure ~~(from pigs)~~

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these products:

1) originated from domestic and *captive wild* pigs in ~~come from~~ an ASF free a country, *zone* or *compartment* free from ASF and have been processed in an establishment approved by the *Veterinary Authority* for export purposes; or

2) have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of ~~the~~ ASFV, and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

~~Article 15.1.17.~~

~~**Recommendations for the importation of litter and manure (from pigs)**~~

~~*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:~~

~~1) come from an ASF free country, *zone* or *compartment*; or~~

~~2) have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of the ASFV, and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.~~

Article 15.1.17.

Recommendations for the importation of skins and trophies

Veterinary Authorities of *importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1) originated from domestic and *captive wild* pigs in a country, *zone* or *compartment* free from ASF and have been processed in an establishment approved by the *Veterinary Authority* for export purposes; or

2) have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of ASFV in accordance with one of the procedures referred to in Article 15.1.21., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.18.

Procedures for the inactivation of ASFV in swill

For the inactivation of ASFV in swill, one of the following procedures should be used:

1) the swill should be maintained at a temperature of at least 90°C for at least 60 minutes, with continuous stirring; or

2) the swill should be maintained at a temperature of at least 121°C for at least 10 minutes at an absolute pressure of 3 bar.

Article 15.1.19.

Procedures for the inactivation of ASFV in meat

For the inactivation of ASFV in *meat*, one of the following procedures should be used:

1. Heat treatment

Meat should be subjected to one of the following treatments:

a) heat treatment in a hermetically sealed container with a Fo value of 3.00 or more; or

b) heat treatment for at least 30 minutes at a minimum temperature of 70°C, which should be reached throughout the *meat*.

2. Dry cured pig meat

a) if salted, *meat* should be cured and dried for a minimum of six months; or

b) if not salted, *meat* should be cured and dried for a minimum of 12 months.

Article 15.1.20.

Procedures for the inactivation of ASFV in casings of pigs

For the inactivation of ASFV present in casings of pigs, the following procedures should be used: treating for at least 30 days either with dry salt (NaCl) or with saturated brine (Aw < 0.80), or with phosphate supplemented dry salt containing 86.5 percent NaCl, 10.7 percent Na_2HPO_4 and 2.8 percent Na_3PO_4 (weight/weight/weight), and kept at a temperature of greater than 12°C during this entire period.

Article 15.1.21.

Procedures for the inactivation of ASFV in skins and trophies

For the inactivation of ASFV in skins and trophies, one of the following procedures should be used:

1) boiling in water for an appropriate time so as to ensure that any matter other than bone, tusks or teeth is removed; or

2) soaking, with agitation, in a 4 percent (w/v) solution of washing soda (sodium carbonate – Na_2CO_3) maintained at pH 11.5 or above for at least 48 hours; or

3) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained at below pH 3.0 for at least 48 hours; wetting and dressing agents may be added; or

4) in the case of raw hides, treating for at least 28 days with salt (NaCl) containing 2 percent washing soda (sodium carbonate – Na_2CO_3); or

5) treatment with 1 percent formalin for a minimum of six days.

Article 15.1.22.

Introduction to surveillance

Articles 15.1.22. to 15.1.27. define the principles and provide a guide on the *surveillance* for ASF, complementary to Chapter 1.4. and Chapter 1.5., applicable to Member Countries seeking to determine their ASF status. This may be for the entire country or a *zone*. Guidance is also provided for Member Countries seeking recovery of ASF free status for the entire country or for a *zone* following an *outbreak* and for the maintenance of ASF free status.

The impact and epidemiology of ASF may vary in different regions of the world. The *surveillance* strategies employed for demonstrating freedom from ASF should be adapted to the regional or sub-regional situation. For example, the approach should be tailored in order to demonstrate freedom from ASF for a country or *zone* where *wild* and *feral* pigs or African *wild* suids provide a potential reservoir of *infection*, or where ASF is present in adjacent countries. The method should examine the epidemiology of ASF in the region concerned and adapt to the specific risk factors encountered. This should include provision of scientifically based supporting data. There is, therefore, latitude available to Member Countries to provide a well-reasoned argument to demonstrate that absence of *infection* with ASFV is assured at an acceptable level of confidence.

Surveillance for ASF should be in the form of an ongoing programme designed to establish that susceptible populations in a country, *zone* or *compartment* are free from *infection* with ASFV or to detect the introduction of ASFV into a free population. Consideration should be given to the specific characteristics of ASF epidemiology which include:

– the role of swill feeding;

– the impact of different production systems;

– the role of *wild* and *feral* pigs and African *wild* suids on the maintenance and spread of the *disease*;

– whether *Ornithodoros* ticks are present and the role they may play in the maintenance and spread of the *disease*;

– the role of semen in transmission of the ASFV;

– the lack of pathognomonic gross lesions and clinical signs;

– the occurrence of apparently healthy carriers;

– the genotypic variability of ASFV.

Article 15.1.23.

General conditions and methods for surveillance

1) A *surveillance* system in accordance with Chapter 1.4. and under the responsibility of the *Veterinary Authority* should address the following:

a) a formal and ongoing system for detecting and investigating *outbreaks* of ASF;

b) a procedure for the rapid collection and transport of samples from suspected *cases* to a laboratory for ASF diagnosis;

c) a system for recording, managing and analysing diagnostic and *surveillance* data.

2) The ASF *surveillance* programme should:

a) include an early warning system throughout the production, marketing and processing chain for reporting suspected *cases*. Diagnosticians and those with regular contact with pigs should report promptly any suspicion of ASF to the *Veterinary Authority*. The *notification* system under the *Veterinary Authority* should be supported directly or indirectly (e.g. through private *veterinarians* or *veterinary para-professionals*) by government information programmes targeted to all relevant stakeholders. Personnel responsible for *surveillance* should be able to seek expertise in ASF diagnosis, epidemiological evaluation and control;

b) conduct, when relevant, regular and frequent clinical inspections and *laboratory* testing of high-risk groups (for example, where swill feeding is practised), or those adjacent to an ASF infected country or *zone* (for example, bordering areas where infected *wild* and *feral* pigs or African *wild* suids are present).

Article 15.1.24.

Surveillance strategies

1. Introduction

The population covered by *surveillance* aimed at detecting *disease* and *infection* should include domestic and *wild* pig populations within the country or *zone*. *Surveillance* should be composed of random and non-random approaches using clinical, virological and serological methods appropriate for the *infection* status of the country or *zone*.

The practicality of *surveillance* in African *wild* suids should be considered following the guidelines in Chapter 1.4.

The strategy employed to establish the prevalence or absence of *infection* with ASFV may be based on randomised or non-randomised clinical investigation or sampling at an acceptable level of statistical confidence. If an increased likelihood of *infection* in particular localities or sub-populations can be identified, targeted sampling may be an appropriate strategy. This may include:

a) specific high-risk *wild* and *feral* pig populations and their proximity;

b) farms which feed swill;

c) pigs reared outdoors.

Risk factors may include, for example, temporal and spatial distribution of past *outbreaks*, and pig movements and demographics.

Member Countries should review their *surveillance* strategies whenever an increase in the *risk* of incursion of ASFV is perceived. Such changes include but are not limited to:

– an emergence or an increase in the prevalence of ASF in countries or *zones* from which live pigs or products are imported;

– an increase in the prevalence of ASF in *wild* or *feral* pigs in the country or *zone*;

– an increase in the prevalence of ASF in adjacent countries or *zones*;

– an increased entry of, or exposure to, infected *wild* or *feral* pig populations of adjacent countries or *zones*;

– evidence of involvement of ticks in the epidemiology of ASF as demonstrated by *surveillance* implemented in accordance with Chapter 1.5.

2. Clinical surveillance

Clinical *surveillance* is the most effective tool for detecting ASF due to severe clinical signs and pathology associated with *infection* with ASFV. However, due to the clinical similarity with other *diseases* such as classical swine fever, porcine reproductive and respiratory syndrome and erysipelas, and those associated with porcine circovirus 2 *infection*, clinical *surveillance* should be supplemented, as appropriate, by serological and virological *surveillance*.

Clinical signs and pathological findings are useful for early detection; in particular, any *cases* where clinical signs or lesions suggestive of ASF are accompanied by high mortality should be investigated without delay.

Wild and *feral* pigs rarely present the opportunity for clinical observation, but should form part of any *surveillance* scheme and should, ideally, be monitored for virus as well as antibodies.

3. Virological surveillance

Virological *surveillance* is important for early detection, differential diagnosis and for systematic sampling of target populations. It should be conducted:

a) to investigate clinically suspected *cases*;

b) to monitor at risk populations;

c) to follow up positive serological results;

d) to investigate increased mortality.

Molecular detection methods can be applied to large-scale screening for the presence of virus. If targeted at high-risk groups, they provide an opportunity for early detection that can considerably reduce the subsequent spread of ASF. Epidemiological understanding of the pathways of spread of ASFV can be greatly enhanced by molecular analyses of viruses in endemic areas and those involved in *outbreaks* in ASF-free areas. Therefore, ASFV isolates should be sent to an OIE Reference Laboratory for further characterisation.

4. Serological surveillance

Serology is an effective and efficient *surveillance* tool. Serological *surveillance* aims at detecting antibodies against ASFV. Positive ASFV antibody test results can indicate an ongoing or past *outbreak*, since some animals may recover and remain seropositive for a significant period, possibly life. This may include carrier animals.

It may be possible to use sera collected for other survey purposes for ASF *surveillance*. However, the principles of survey design and the requirement for statistical validity should not be compromised.

Article 15.1.25.

Surveillance procedures for recovery of free status

In addition to the general conditions described in Articles 15.1.3. and 15.1.4., a Member Country seeking recovery of country or *zone* ASF-free status, including a *containment zone*, should show evidence of an active *surveillance* programme to demonstrate no evidence of *infection* with ASFV.

The domestic and *captive wild* pig populations should undergo regular clinical and pathological examinations and virological and serological testing, planned and implemented according to the general conditions and methods described in this chapter.

This *surveillance* programme should include:

1) *establishments* in the proximity of the *outbreaks*;

2) *establishments* epidemiologically linked to the *outbreaks*;

3) animals moved from or used to repopulate affected *establishments*;

4) all *establishments* where contiguous culling has been carried out;

5) *wild* and *feral* pig populations in the area of the *outbreaks*.

Article 15.1.26.

Surveillance for ASFV in wild and feral pigs

1) The objective of a *surveillance* programme is either to demonstrate that *infection* with ASFV is not present in *wild* and *feral* pigs or, if known to be present, to estimate the geographical distribution of the *infection*. A similar approach should be taken with respect to African *wild* suids where appropriate. While the same principles apply, *surveillance* in *wild* and *feral* pigs presents additional challenges including:

   a) determination of the distribution, size and movement patterns associated with the *wild* and *feral* pig population;

   b) relevance and practicality of assessing the possible presence of *infection* with ASFV within the population;

   c) determination of the practicability of establishing a *zone* taking into account the degree of interaction with domestic and *captive wild* pigs within the proposed *zone*.

   The geographic distribution and estimated size of *wild* and *feral* pig populations should be assessed as a prerequisite for designing a population monitoring system following Chapter 1.4.

2) For implementation of the *surveillance* programme, the limits of the area over which *wild* and *feral* pigs range should be defined. Subpopulations of *wild* and *feral* pig may be separated from each other by natural or artificial barriers.

3) The *surveillance* programme should include animals found dead, road kills, animals showing abnormal behaviour or hunted animals.

4) There may be situations where a more targeted *surveillance* programme can provide additional assurance. The criteria to define high risk areas for targeted *surveillance* include:

   a) areas with past history of ASF;

   b) sub-regions with large populations of *wild* and *feral* pigs or African *wild* suids;

   c) border regions with ASF affected countries or *zones*;

   d) interface between *wild* and *feral* pig populations, and domestic and *captive wild* pig populations;

   e) areas with farms with free-ranging and outdoor pigs;

   f) areas with a high level of hunting activity, where animal dispersion and feeding as well as inappropriate disposal of waste can occur;

   g) other risk areas determined by the *Veterinary Authority* such as ports, airports, garbage dumps and picnic and camping areas.

Article 15.1.27.

Surveillance for arthropod vectors

Vector surveillance aims at defining the type and distribution of ticks of the genus *Ornithodoros,* the only known arthropod *vectors* of ASFV. Any species of *Ornithodoros* ticks should be considered as potential *vector* or reservoir of ASFV. The virus is generally transmitted transstadially but transovarial transmission has only been observed in ticks of the *Ornithodoros moubata* complex.

The *Competent Authority* should have knowledge of the presence, distribution and identity of *Ornithodoros* ticks, also taking into account climatic or habitat changes which may affect distribution.

A sampling plan in accordance with Chapter 1.5. should take into account the biology and ecology of species present and, in particular, the favoured habitat of these species in burrows and structures associated with pig production. The plan should also take into account the distribution and density of pigs in the country or *zone*.

Sampling methods include CO_2 trapping and vacuuming of burrows or structures.